

OBSERVATIONS AT 8 P. M. EASTERN STANDARD TIME, (7:17 P. M. LOCAL.)

Date.	Tempera- ture.		Wind.		Upper clouds.			Lower clouds.		
	Air.	Dew-point.	Direction.	Force.	Kind.	Amount.	Direction from.	Kind.	Amount.	Direction from.
1.....	78	73	ne.	2		0				
2.....	79	73	ne.	2-3		0				
3.....	79.5	73	ne.	1		0				
4.....	79	73	ne.	2		0				
5.....	79	73	ne.	1				ks.	Few	ne.
6.....	79	73	se.	0.5				ks.	10	
7.....	79	74	w.	0.5		0			0	
8.....	78.5	74	se.	0		0			0	
9.....	77	71	ne.	2	cs.	10	ne.			
10.....	79	73	se.	0.5		0		k.*		
11.....	79	73	se.	1		0		nk.	Few	
12.....	79	73	se.	1				k.	10	se.
13.....	74	65	e.	3-4	c.	1	e.			
14.....	75	68	se.	2				ak.	4	se.
15.....	77	72	se.	2				d.k.	5	se.
16.....	78	72	se.	1				f.k.	1	se.
17.....	76	73	se.	1				ak.	10	se.
18.....	77.5	73	e.	2	ck.	8	e.			
19.....	77	73	ne.	1				ak.	9	ne.
20.....	79	73	ne.	1				ak.	10	ne.
21.....	79	73	se.	2	ck.	5	se.			
22.....	80.5	75	se.	1				k.	3	se.
23.....	81	74	se.	2				a.k.,k.	8	ne.
24.....	78	72	se.	2				k.	10	se.
25.....	80	73	se.	0	c.	Few	s.			
26.....	79	75	se.	1				f.k.	5	se.
27.....	79	73	ne.	3	ck.	Few	se.			
28.....	79	75	ne.	2				k.	10	ne.
Means.....	78.2									

*Cumuli on Ometepe.

The rainfall occurred as follows: 2d, sprinkle at 3 a. m.; 9th, rain at 3:15 and 9 a. m.; 12th, thunderstorm from 7 to 8 p. m.; 17th, sprinkle. 0.02 inch at 1 a. m., frequent showers reported at Tortuga, about 50 miles southeast of Rivas on the southwest shore of Lake Nicaragua; 18th, sprinkle at 5:45 p. m.; 19th, sprinkle, 0.10 p. m.; 21st, sprinkle at 1 p. m.

The barometric range for the month was 0.16. The lowest occurred on the 21st and the highest on the 14th. Cool waves occurred on the 9th and 14th. On the 8th calm and smoky with a light air from the southwest; a shower occurred 5 miles to the northward, and a sprinkle at Rivas; 9th, wind backed to northeast at 10 a. m.; 15th, phenomenal clouds from the south and southwest.

MEXICAN CLIMATOLOGICAL DATA.

Through the kind cooperation of Señor Mariano Bárcena, Director, and Señor José Zendejas, vice-director, of the Central Meteorológico-Magnetic Observatory, the monthly summaries of Mexican data are now communicated in manuscript, in advance of their publication in the *Boletín Mensual*; an abstract translated into English measures is here given in continuation of the similar tables published in the MONTHLY WEATHER REVIEW since 1896. The barometric means have not been reduced to standard gravity, but this correction will be given at some future date when the pressures are published on our Chart IV.

Mexican data for March, 1899.

Stations.	Altitude.	Inch. Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
Colima.....	Feet. 1,600	Inch. 28.28	° F. 91.8	° F. 53.8	° F. 74.7	% 59	Inch.	sw.	sw.
Durango (Seminario).....	6,243	24.02	93.2	34.2	62.2	24	.....	sw.	e.
Guanajuato.....	6,640	23.69	87.3	42.3	65.3	38	.....	sw.	sw.,w,nw
Leon (Guanajuato).....	5,934	24.28	86.5	33.8	64.2	27	.....	s.	sw.
Mexico (Obs. Cent.).....	7,472	23.04	80.4	38.3	61.9	44	0.06	nw.	sw.
Morelia (Seminario).....	5,401	23.97	84.4	43.5	65.7	46	T	sw.	w.
Oaxaca.....	5,164	23.06	92.1	38.1	70.7	55	0.60	s.	sw.
Puebla (Col. Cat.).....	7,112	23.34	83.5	30.6	64.8	59	.....	ene.	sw.
Tuxpan (Vera Cruz).....	19	29.20	100.4	57.2	76.8	76	T.	e.	n.
Silao.....	6,063	24.36	82.9	41.7	66.7	39	.....	wnw.	w.
Zapotlan (Seminario).....	5,078	25.10	88.7	44.6	69.4	65	.....	sse.	ws.

WEATHER FORECASTING IN HONGKONG.

By W. DOBERCK, Director of the Hongkong Observatory (dated February 17, 1899).

In the law of storms in the eastern seas it is explained that all the phenomena connected with typhoons are natural consequences of the barometric gradients, and that the steepness of these cause enormous rainfalls, and that these tend to increase the gradients till the rainfall ceases for lack of water vapor when the center of the typhoon enters dry land. These phenomena are not qualitatively different from those experienced in colder climates. Although the climates feel so extremely different, there is scarcely sufficient difference in temperature to cause any substantial difference in the laws governing the weather. This is most apparent when the extreme differences in temperature are expressed on the absolute scale beginning with absolute zero.

In the northeast monsoon the wind blows practically always from the northeast, east, or east-southeast, as pressure is relatively lowest to the south. In midwinter the lowest pressure lies to the south of the equator, and in spring and autumn it lies to the north of the equator, a trough-shaped depression lying between the northeast and southwest winds. On the contrary, in the southwest monsoon there is no southwest wind in Hongkong unless there happens to be a depression to the north of the observer. A permanent depression inland in northern China or Siberia does not exist.

During the northeast monsoon, when the center of an anticyclone moving along eastward between preceding and following cyclones, passes comparatively close to Hongkong the weather clears there. The latitude of the centers of the anticyclones is generally about 35°, and perhaps never as low as 27°. The time when the northeast wind is strongest is not when the center is just north of or nearest to Hongkong, but occurs usually when the center is past, because the high pressure spreads to the south and southeast, so that pressure continues rising along the south coast of China after the center is past.

When during the northeast monsoon a low pressure advances across north China and Korea it seldom causes southwest wind in Hongkong, but only calms or very light winds. At the same time southwest winds are frequently reported from Saigon and the southern Philippines, apparently against the gradient. This is caused by local shallow low pressures over the land, which becomes intensely heated, owing to the absence of the usual northeast monsoon and owing to the clear sky and hot sunshine. Such southwest breezes must have a diurnal period like land and sea breezes, and they do not blow at sea except very near land.

Northers in Hongkong are just like northers in Texas. They occur with falling temperature after very hot days in winter and spring. In case of high barometric areas over north China, Korea, and Japan sometimes a V-shaped depression with isobars open toward the south is formed near Formosa. Such a depression develops into a cyclone moving toward Japan.

While the weather in Hongkong in winter depends upon the latitude in which the cyclones and anticyclones are crossing to the northward, it depends in summer upon the latitude of the troughs.

Mr. A. G. Figg, who officiates as weather forecaster in Hongkong, states that there appears to be a general agreement in recent years between droughts in India and droughts in Hongkong.

Before a period of foggy weather sets in we note an upper current from south or southwest above the east wind. Then fog occurs along the coast, which is cooler than the sea, with light (usually east) wind. With west wind the coast is not so cool, and therefore fog is not so likely to occur as with east wind or calm.